Reader's Block: Alexia, Neurological Reading Disorders, and the Postliterate Condition

"Reading maketh a Full Man."

–Francis Bacon, *Essays*[1]

Sam Martin knew the problem was serious when he tried reading a novel. He had initially dismissed the pain above his left eye as a migraine. But opening Matthew Glass's *Ultimatum* revealed the injury's full extent. "I found to my horror that I could not read at all," Martin recalled in his memoir. "The scramble of letters on the page meant nothing to me, no matter which eye I used."[2] A trip to the stroke ward of Belfast's Royal Victoria Hospital led to the identification of the brain hemorrhage responsible for this sudden illiteracy. The seventy-five-year-old retiree felt lucky that the stroke's damage was not more severe. Yet as a former professor at Queen's University Belfast and an avid reader, he worried that he might never read again: "I realised that a large chunk of my life style had been lost—would I ever regain it?"[3]

Martin was better off than many others suffering from reader's block. By the time of his stroke in November 2011, medical professionals were trained to recognize neurological reading disorders that interfered with a patient's ability to decode letters. In Martin's case, the hospital staff determined that there was nothing wrong with his eyes; he could see letters perfectly well, just not make sense of them. A computed tomography (CT) scan, a magnetic resonance imaging (MRI) scan, and other tests mapped the cerebral damage's extent before his discharge to the care of speech and occupational therapists for rehabilitation. In the months to come, daily exercises using an online therapy program enabled Martin to read Dickens's *A Christmas*

Carol at the rate of between 7 to 30 words per minute (well below the average reading speed of 250 words per minute). He eventually reached 90 words per minute and, with effort, could finish an entire novel—including Glass's *Ultimatum*—in about four months. This represented enormous progress over previous centuries when an unknown set of reading deficits first came to the medical profession's attention.

Martin's reading disorder now had a name, at least: alexia, a neurological syndrome in which a person loses the ability to read written or printed language but can still do many other activities normally (for example, see and speak). Literally, the Greek-derived term means "not word" or "without word." Losing the ability to read is one potential consequence of brain damage, usually caused by a stroke (as in Martin's case), tumor, head injury, or degenerative disease.[4] In contrast to dyslexia, which disrupts the process of learning to read during childhood, alexia affects literate adults. It is sometimes referred to as acquired illiteracy since patients who have read books for their entire lives can suddenly find themselves deprived of the capacity to do so. This reading disorder imparts a painful neurological lesson: if literacy can be acquired, it can also be lost.[5]

Ironically, the earliest cases of acquired illiteracy were diagnosed during the first era of mass literacy. Literacy rates rose dramatically during the nineteenth century throughout much of Europe and the United States. By the century's end, Britain was essentially a literate society in which the adult literacy rate surpassed 95% and nearly everyone—men and women alike—could read to some degree.[6] Whereas illiteracy's prevalence had once made it difficult to identify reading deficits caused by brain injuries, rising literacy rates facilitated their detection. People who couldn't read now stood out from the crowd.

More people than ever before defined themselves as readers too. Literacy's benefits extended well beyond the ability to access information. Reading came to be thought of as a crucial step to personal development and was often aligned with a rhetoric of moral, intellectual, and economic progress.[7] Recall the emphasis in Samuel Smiles' *Self-Help* on reading as "a source of the greatest pleasure and self-improvement."[8] Today, our understanding of the nineteenth century is inextricably bound up with reading, literacy, and print. What should we make, then, of those individuals who lost the ability to read?

This essay examines over a century's worth of case studies describing patients with neurological reading disorders, starting with the earliest reports in nineteenth-century medical journals before proceeding to longer, occasionally book-length accounts published in the twentieth- and twenty-first centuries, in order to demonstrate the profound impact these deficits had on people's lives, well-being, and sense of identity in societies increasingly defined by the ability to read. A diverse set of cases reveals the extent to which people struggle to adjust to life after reading—what this essay will refer to as postliteracy since we lack adequate terminology to describe literacy's loss—and the numerous coping strategies devised to preserve their identities as readers despite no longer being able to do it. As we will hear from patients, losing the ability to read meant far more than the loss of a learned skill; it meant a loss of dignity, expressed through a rhetoric of partial or incomplete personhood. Such people no longer felt themselves to be a "Full Man," in Francis Bacon's terms. (The psychologist Scott Moss admitted after a stroke deprived him of the ability to speak, read, or write: "For a long period of time I looked upon myself as only half a man."[9])

People with alexia know what they are missing. The end of reading might as well be the end of life itself for those subscribing to Flaubert's advice: "Read in order *to live*."[10] Whereas illiterate individuals typically have only a distant notion of the republic of letters—Socrates and other voluntary exiles from literacy are rare animals—formerly literate ones know all too well what privileges have been revoked. The social, cultural, and economic benefits of reading and literacy have been well documented by historians and lay people alike.[11] Reading is widely perceived to be a source of communication, entertainment, and knowledge—especially the spiritual wisdom considered by many essential to a meaningful life. Helen Keller, for instance, described reading as her "Utopia."[12]

By contrast, illiteracy is often associated with ignorance and stigmatized accordingly. Consider the way Samuel Johnson defined "illiterate" in exclusively negative terms as the antithesis of enlightenment values—"Unlettered; untaught; unlearned; unenlightened by science. "[13] Illiteracy came to be thought of less as a mechanical skill's absence than as a personal deficiency linked to low intelligence or other failings. Illiterates were casualties of the war on illiteracy. The consequences for joining this group could be profound after a lifetime of literacy and the benefits entailed by that distinction—a demotion from "men of letters" to merely "unlettered."

Once-literate individuals lost more than the ability to read; they lost a crucial component of their identities. More than a useful tool for gaining access to information, economic benefits, and social acceptance, reading has become essential to the cultivation of selfhood. As sociologist Frank Furedi puts it, "How people read and what they read is widely perceived as an important element of their identity."[14] The following accounts of alexia

therefore convey how such people cope, or fail to cope, with their newfound status as non-readers.

A word about method before going any further: my approach differs markedly from that of the neurologists and other medical practitioners who have written the bulk of scholarship on alexia. Their case studies of individual patients focus on the clinical symptoms relevant to medical diagnosis; merely personal details tend to be discarded. By contrast, my approach might be described as an Oliver Sacks-style handling of the cases. The British neurologist was renowned for his bestselling books describing patients with unusual neurological disorders. He is especially remembered for an interest in people as much as pathology. When describing his methods, Sacks criticized the Hippocratic tradition of case histories for focusing too much on pathology alone: "they convey nothing of the person, and the experience of the person, as he faces, and struggles to survive, his disease."[15] To remedy this neglect, Sacks proposed making the patient—"the suffering, afflicted, fighting, human subject"—central to these histories.[16]

Sacks's case histories—or what he once referred to as "clinical biographies"—draw attention to pathology's psychological as much as physiological dimensions.[17] His approach was to a large extent influenced by the detailed profiles found in nineteenth-century medical journals and, later, the book-length narratives of the Russian neuropsychologist Alexander Luria (not to mention Sacks's own experience of listening to patients tell their stories). My approach builds on this rich tradition of clinical observation by singling out biographical, emotional, and psychological—let's call them paramedical—details offering insight into patients' lives. As it turns out, Sacks himself wrote about alexia. This is hardly surprising considering his devotion to

reading ("I need to read; much of my life is reading"); the closest he came to suicide was after an episode of sciatica made it impossible for him to read, write, or think.[18]

My approach differs from Sacks's in one crucial respect: his case studies were built on consultations with patients and thus substantially enriched by firsthand testimonies. As a historian of reading who works with paper, not people, and who is mindful of critiques put forward by the field of Disability Studies, I read the existing body of textual evidence with an eye toward those revealing personal details that have been downplayed, if not discarded altogether, by impersonal clinical accounts of a patient's symptoms.[19] Yet my goal remains the same as that of the clinicians: to gain a better understanding of what it feels like to lose the ability to read at a time when reading is figured as a crucial aspect of our identities; a signifier of status, privilege, and power; and even a prerequisite to leading a meaningful life.

Reading Deficits

Incidents of reader's block can be traced back to ancient times. The earliest mention in Western literature can be found in Pliny the Elder, who described a learned Athenian forgetting how to read after being struck in the head by a stone.[20] More detailed descriptions followed. In 1651, a Swiss physician recorded the case of an obese, red-faced nobleman who woke from a coma to find that he could no longer read Latin.[21] Fifteen years later, a stroke-survivor in Danzig recovered from impaired speech, partial paralysis, and epileptic convulsions only to discover that: "A final evil remained to be overcome. He could not read written characters, much less

combine them in any way. He did not know a single letter nor could he distinguish one from another."[22] Sudden losses of literacy were reported across Europe in the following centuries. Observers attributed these incidents to partial memory loss caused by injury or disease.

Self-diagnoses played a prominent role in documenting what would come to be known as alexia. Whereas ordinary patients lacked the wherewithal to articulate their health problems, medical practitioners were in a privileged position to observe their own symptoms and, more important, mental state. Jacques Lordat, professor of physiology at the Montpellier medical school, stopped reading after a stroke in 1825. "When I wanted to glance at the book I had been reading when my disease declared itself, I found it impossible to read its title," he recalled. "I will not allude to my despair—you yourself can best imagine it."[23] Lordat's account of "deep melancholy and resignation" established the link between reading and mental health discernable in nearly all subsequent cases.[24] In fact, his attitude improved dramatically after recognizing the title of one of his books, *Hippocratis Opera*: "This discovery made tears of joy come to my eyes."[25]

Lordat's melancholia demonstrates the perverse capacity of alexia to deprive its victims of a favorite source of consolation at the moment when it is most needed. Other stroke survivors could at least take refuge in books. When former Lord Chief Justice Thomas Denman lost his speech, literature provided sustenance. According to Denman's memoir, "He found his chief solace in reading and being read to," including daily excerpts from the Bible, along with Shakespeare, Corneille, and Racine, whose writing gave him "infinite pleasure."[26] (Nearly a century and a half later, stroke survivors continue to seek refuge in books. Alberto Manguel,

author of *A History of Reading* and other bibliomemoirs, consoled himself after a stroke by recalling a line from Virgil's *Aeneid* and continuing to read voraciously.[27])

Knowledge of acquired reading disorders improved during the second half of the nineteenth century as neurologists took increasing interest in cerebral pathology and the potential attribution of unusual behavior to damage in specific areas of the brain.[28] Paul Broca's clinical investigation into aphasia, the loss of the ability to speak, led to the identification of the brain region governing speech production (later known as "Broca's area") and, eventually, to reading deficits aligned with speech loss. Subsequent research aimed to determine whether reading, writing, and other activities could be linked to distinct cortical areas too. H. Charlton Bastian, a professor of pathological anatomy at University College London, produced one of the earliest reports of alexia based on clinical observation when he noted that an aphasic patient in his care could no longer read a book: "the *sight* of the words seemed to convey to her no meaning."[29]

Most patients sought out an ophthalmologist, not a neurologist, since the problem seemed to be a visual one. Patients suffering from amaurosis, or partial sight loss resulting from damage to the optic nerve, for example, reported being able to read for only a few minutes at a time before the book's printed letters turned misty, blended into one another, and eventually dissolved into an indecipherable "black mass."[30] Shutting their eyes for a few minutes usually enabled them to resume reading, however. One doctor's survey of stroke survivors indicates how difficult it could be tell the difference between ocular and cerebrovascular damage. According to that account, Mr. I., a gout-prone Liverpudlian distressed by business dealings, complained of pain in his head and arm, along with diminished reading ability; although the

symptoms seemed related to a brain hemorrhage, his literacy was restored by a pair of eyeglasses.[31]

It would take years of clinical observation before physicians were able to identify the various types of alexia. William Henry Broadbent was among the first to document reading deficits while working with aphasic patients at St. Mary's Hospital in London. Some patients could not read at all. Charles D., a fifty-nine-year old gas inspector and member of the Paddington Vestry, stopped reading after being struck by falling timbers while captaining a volunteer fire brigade. "I can see them," said Charles while looking at the words, "but cannot understand."[32] When asked to state in writing that he could not read, he wrote, "I can not do read."[33] Patients struggled to articulate the workings of a process that they had never understood or even thought about in the first place. Pointing to the letters of the hospital's name, he explained that he could "not get them into his mind-box."[34]

Stranger cases arose involving multilingual stroke survivors who forgot how to read ancient languages despite remaining literate in their native tongue.[35] It took eight years of re-learning Latin before one patient could read Horace again. His plight is reminiscent of George Eliot's Baldassarre, a fictional scholar who forgets how to read Greek (among other things) after an illness. Faced with a book's pages, the narrator explains, "no inward light arose on them"—no Horace for him either.[36] Letters that had once held the magical ability to "conjure up a world" reverted to meaningless black scratchings.[37] He consequently loses his social standing in Renaissance Italy; as Sally Shuttleworth observes, "Without Greek, Baldassarre is without identity."[38] Books conjure up woes, not worlds, as he holds his head and cries, "Lost, lost!"[39]

Magical Reading

How did people cope with reader's block? One answer: they didn't. The clinical tone used in reports makes it difficult to gauge the social, psychological, and emotional toll endured by patients with reading disorders. Those brief accounts tend to focus on physiological symptoms that could be useful for diagnostic purposes. Yet eccentric behavior here and there provides a glimpse into the anxiety and discomfort patients felt about their changed status amidst the "social stratification" that was one consequence of rising literacy rates.[40] In fact, many alexic patients sought to protect themselves by pretending that they were still readers. Their deceptive behavior offers an unusual counterpoint to the longstanding interest among book historians in documenting the phenomenology of reading—or, in this case, the phenomenology of *not* reading.[41]

Most patients lost all interest in books after a brain injury. For example, Henri Guénier stopped reading books after a series of debilitating headaches; he would handle them for a few minutes, then cast them aside. In this case, the waning appeal of books was taken as a sign of cerebral damage.[42] Other reading deficits were equally obvious. A formerly omnivorous reader admitted to Yorkshire's Royal Halifax Infirmary seemed like a different person after his stroke. A physician there likened him to "an uneducated deaf-mute."[43] On one occasion, he turned the newspaper upside down and asked why it had been given to him. When told that he used to read books, he cryptically replied, "that sounded like it."[44] The man seemed to lose the ability

not only to read but even to grasp the concept. After noticing the letters on a coin, he asked a nurse "if these were what were contained in books."[45]

But, for less dire cases, pretending to read was often preferable to the alternative: a loss of control, dignity, and social standing. One newspaper confirmed the alexic patient's worst fear, noting, "The casual observer might imagine that he was an idiot."[46] Since aphasic disorders were commonly associated in the public imagination with intellectual disabilities, posing as a reader could be a useful strategy to avoid further stigma. Take the case of a seventy-five-year-old stroke survivor in Dublin who woke from a coma to find that he was no longer literate. "Only a little could read the words," he explained to the physician, "but not take in the meaning."[47] The patient nevertheless continued to read newspapers and the Bible until a quiz exposed the sham. According to the physician, "he read, as it were, but the words, unconnected and meaningless, had not even the most remote connexion with the text."[48] Understandably, the patient wished to maintain appearances in order to retain the rights of a gentleman. Such concerns were justified, too, as the man's illiteracy contributed to the legal verdict that he was no longer capable of managing his own affairs.

Alexia frequently went unreported since patients who did not wish to be stigmatized as illiterate could easily deceive unsuspecting physicians. What is the difference between reading and pretending to read? The two are practically indistinguishable to the naked eye. Patients exploited this resemblance by continuing to go through the motions of reading in order to retain their status as "readers." A fifty-year-old French woman named Marie Keller was admitted to the Hôtel Dieu on April 1, 1862 after epileptic seizures, violent headaches, and temporary loss of speech. No one mentioned alexia, however, since Keller spent much of the

day reading—or at least mimicking it. She waited until after recovery to confess that "she only read with her eyes, not with *her stomach*."[49] The singular phrase seemed to mean that she did not understand—we might even say digest—what she read. If neurotypical readers pay more attention to *what* instead of *how* they read, Keller reversed that ratio. Being perceived to be a reader sometimes mattered more than reading itself.

Still, Keller's behavior is difficult to explain. Did she think that the ability to read would return? Was she reluctant to accept the situation? Or was the façade meant to conceal her illiteracy from others? We might refer to such instances as magical reading, following Freud, since the patients seemed to believe that wishing to read again would make it happen.[50] Others continued to seek comfort in liturgical rituals despite no longer comprehending them. Adèle Ancelin read the *Month of Mary* nearly every day for over a year until her physician noticed that it was always the same chapter and sometimes even the same page. When asked whether she understood it, she shrugged her shoulders.[51] Another patient at St. Thomas's Hospital in London read the Lord's Prayer correctly but must have been doing so from memory since he always added an extra line that was nowhere on the page.[52]

A few patients seemed unwilling or unable to admit to themselves that they could no longer read. Paquet was an educated, forty-year-old man who expected to be ordained after leaving the seminary until a severe fall left him partially paralysed and speechless. Occasionally he read for the entire day, even following the book's lines with his eyes and turning the pages at the appropriate moment. Yet it was all a ruse: he failed the quiz given to him by a physician, who noticed that Paquet read the same collection of tales over and over again. According to the physician (no bibliophile, to be sure), ordinary readers would be unable to sustain such interest:

"it would be an unbearable torture to be condemned to read the same tale thirty times a day."[53] The gesture evidently fulfilled a psychological need to preserve the patient's former identity as an educated man or at least—like Dickens's Dr. Manette—posttraumatic adherence to his former life's routines.

Some patients even insisted that they were literate despite incontrovertible evidence to the contrary. A man who boasted of his literacy was asked to read a letter beginning "My dear master," which he read as "Sir" before abruptly stopping. He then mumbled a few incoherent words before mistaking "miss" for "madam." Further examination exposed the patient's inability to read the *History of Saint Geneviève* (after mistaking "preface" for "fasts," he failed to recite the initial line). "It was evident that he could not read," the physician drily concluded.[54] Yet the patient did not seem to be faking it either. Or at least he had fooled himself as much as everyone else.

Word-Blindness

Historians of reading have looked to the brain since the field's inception. In "First Steps Toward a History of Reading," Robert Darnton observed the need for neurological evidence in order to understand the "inner process" by which readers decipher words.[55] Subsequent research has often presupposed a socially diverse group of readers with nearly identical cognitive abilities. Yet there is more diversity among readers (and their brains) than conventional histories have admitted into their pages. The experiences of people with varying intellectual capabilities

indicate the need for a more capacious model of reading that can take into account neurological differences. In place of "the ideal reader" envisioned by reader-response criticism and other theoretical schools, room must be made for the unideal reader whose disabilities make reading difficult or even intolerable.[56] Recent scholarship bringing together the history of reading with disability studies suggests one pathway to documenting the cognitive dimensions of reading alluded to by Darnton while at the same time not losing sight of neurodiversity.[57] To that end, alexia's diagnosis in the late nineteenth century represents a starting point from which to undertake such an investigation.

French neurologist Jules Dejerine is widely credited with establishing the neuroanatomic basis of reading through his pioneering research into alexia. The German physician Adolph Kussmaul had previously observed that "word-blindness" (*wortblindheit*) could be treated as an isolated clinical condition rather than a symptom associated with aphasia or other language disorders.[58] He noted that "a complete text-blindness" might exist in patients whose speech, sight, and intellect were otherwise intact.[59] Dejerine's subsequent clinical work ushered in serious study of the brain's role in reading. He led a clinical neurology ward at Bicêtre Hospital, where he encountered a patient named Monsieur Oscar C. or Mr. C, who, curiously enough, could write but not read—reader's block without writer's block—a condition that would come to be known as alexia sine agraphia or pure alexia. Anatomical evidence obtained from that patient's postmortem examination enabled Dejerine to link alexia's symptoms to lesions on the brain. To this day, the case serves as a reference point in the scientific study of reading's cerebral basis.

Dejerine met Mr. C. on November 15, 1887. Mr. C. was a retired textile merchant who had experienced short bouts of numbness in the limbs on his right side. Soon, he could no longer read the shop signs or street posters during his customary walks through the city. The case study notes: "Observation. Total word blindness—for letters and words—lasting four years in a man of 68 years, very intelligent and well educated."[60] Like most patients, he found the condition baffling. "I still know how to write the letters, there they are," protested Mr. C., "why can't I read them?"[61]

Mr. C. used to read on a regular basis. Now, he recognized the newspaper *Le Matin* by its familiar format; but unfamiliar papers remained opaque. He could describe the shapes of individual letters ("A" resembled an easel, "P" a buckle, "Z" a serpent) without being able to name them. "He thinks that he has 'gone mad,'" noted Mr. C.'s first doctor, "since he is well aware that the signs he cannot name are letters."[62] Still, he refused to come to terms with his illiteracy or rather postliteracy. As Dejerine notes of Mr. C., "he has never accepted the idea that he cannot read, while remaining able to write."[63] It made little difference that his wife continued to read to him. Acquired illiteracy left Mr. C. depressed and even suicidal before his death on January 16, 1892.

People found it difficult to grasp any split between the seemingly complementary processes of reading and writing. Jean-Martin Charcot, who established the first neurology clinic at Paris's Salpêtrière Hospital, observed patients learning of this phenomenon "in all its startlingness"—incredulity was the inevitable result—after failing to read their own writing.[64] Before a hunting accident, one of Charcot's patients used to read novels and even move his lips while doing so. Still, the patient's alexia went unnoticed until he failed to make sense of a letter

to a client. “I write,” the patient explained, “as though I had my eyes shut, I cannot read what I write.”[65] The metaphor suggests one way of reconceptualizing an activity associated by most readers with vision. The experience led to an unusual form of impostor syndrome: writing without reading no longer felt like writing at all.

Neurologists went on to report cases of alexia outside continental Europe after Dejerine published his findings. In Britain, James Hinshelwood led the way in documenting numerous cases of acquired illiteracy (a condition later distinguished from “congenital word-blindness” or what is known today as developmental dyslexia).[66] Hinshelwood developed an interest in the cerebral basis of vision while working as an ophthalmic surgeon at the Glasgow Eye Infirmary. Although patients attributed their reading difficulties to eye problems, Hinshelwood connected them to brain damage. He was the country’s first physician to treat alexia separately from aphasia. And instead of treating alexia as a single phenomenon, he distinguished multiple kinds of reading deficits in patients, some of whom were unable to read any words or letters, as we have seen, and others who were able to read letters but not words (word-blindness without letter-blindness) or even vice-versa (letter-blindness without word-blindness). Hinshelwood published a series of articles about acquired illiteracy in the *Lancet* and *British Medical Journal* that would later be reprinted in *Letter-, Word-, and Mind-Blindness* (1900), a seminal work on reading disabilities.

Hinshelwood’s first encounter with alexia took place on August 29, 1894, when a teacher of French and German discovered that a pupil’s assignment was illegible to him. He could see the letters, just not name them. The teacher’s case reversed the usual trajectory from illiteracy to literacy: “The page of a printed book appeared to him exactly as it appears to a

person who has never learnt to read."[67] Over the following year, the patient reverted from teacher to student, re-learning the alphabet and practicing with a child's primer. "His behaviour is exactly that of a child learning to read," observed Hinshelwood.[68] Physicians and patients alike spoke of alexia in infantilizing terms. It was as if losing the ability to read meant losing one's standing as an adult too.

Worse, it often meant losing one's livelihood. Tradesmen risked losing their jobs after a lifetime spent honing a craft. A forty-five-year-old tailor consulted Hinshelwood after a reading deficit cost him his job. His reading always came to an abrupt halt after the first few words of a sentence. The tailor, in his words, "became stupid" when trying to make sense of the letters.[69] The process, though not painful, was mentally fatiguing, prompting him to put his hands to his head during the trials, as if the pain of reading could be assuaged in the same way as other aches. Such readers were profoundly aware of reading's physical basis despite its longstanding phenomenological association with the mind's theatre or one's "innermost self."[70]

Pseudoreading

Case histories disclose the ingenious and resourceful methods through which patients compensated for reader's block by using their full sensorium. Touch was one way to circumvent visual processing. For instance, Mr. C. traced the shapes of individual letters—what one neurologist called "reading by the 'tip of the finger.'"[71] Similarly, a patient under Charcot's care traced letters on his thumbnail with his hands behind his back. Charcot's verdict: "one can say

of him *that he reads only in the act of writing*."[72] Evidently, patients who could not read their own writing could at least write their own reading. (Subsequent clinicians have confirmed that patients frequently trace letters on the palm of their hand or on the table.[73]) Tactile-kinesthetic reading was hardly restricted to the hands; patients used their feet too. One even traced letter shapes on the roof of his mouth. Sacks described the man as "reading with his tongue."[74]

The eyeballs themselves could be repurposed for tactile reading. By directing his fovea onto the page's black type, a patient could trace their shapes via minute head movements.[75] It was a sort of "visual Braille," in Sacks' words.[76] (The patient was surprised to hear that everyone else did not read in this way too.) Educated guesswork based on partial letter shapes and contextual clues enabled him to increase his reading speed. Non-standard forms of print introduced problems, however. Minor variations in letter shapes, hardly noticeable to conventional readers, thwarted his attempts at reading altogether. Words crossed by superfluous diagonal lines made no sense either since they disrupted the patterns registered by head movements. The man could not read at all if someone held his head still—the kinesthetic equivalent of a blindfold.

Those patients who managed to retain some degree of literacy read slowly and laboriously, often proceeding letter-by-letter, at a fraction of their former pace. According to recent studies, alexic patients can take over sixteen seconds to read three- and four-letter words; longer ones might not be decipherable at all.[77] Predictably, patients who read in this way were treated like children rather than adults undergoing rehabilitation. G. L., a robust, healthy-looking shipwright in his fifties, could identify individual letters but not whole words (including his own name) unless he spelled them out "like a child learning its first lesson."[78]

Saying “C-A-T” aloud was the only way for him to understand the word. Longer words were challenging, and very long words, such as “Constantinople” or “hippopotamus,” beyond his grasp.

Word-blind patients were men of letters in the most literal sense. By contrast, letter-blind patients could read entire words, just not their constituent letters. A patient with spinal meningitis admitted to Glasgow’s Western Infirmary failed to read a single letter of the alphabet except “T,” which he called “Tom” (his own name). Yet he instantly recognized “electricity,” “infirmary,” “stethoscope,” and other whole words. Furthermore, “JOB” was legible but not the rearranged letters in “OBJ.”[79] The patient had no idea if words were misspelled or their letters reversed. Even those who could not read at all sometimes recognized words as visual pictures: their own names, perhaps, or brand logos. They read words ideographically or logographically, not phonetically—what the German neurologist Kurt Goldstein called “pseudoreading.”[80]

What hope did people have of ever regaining the ability to read? The prognosis was gloomy: in most cases, reading is a paradise lost, never to be regained.[81] Those who did read again often did so through enormous effort and, even then, at a fraction of their former speed. For example, D. S., a thirty-four-year-old woman who has participated in recent clinical studies of alexia, eventually became capable of reading again. She resumed her former life as a homemaker and mother of two children; she even enrolled in a typing course. But, crucially, she stopped reading for enjoyment.[82] Escapism is no longer an option when reading itself is such hard work. Other cases defy a neat story arc rewarding patients for their industry and perseverance (think back to the Samuel Smiles ethos quoted earlier). One young man who

refused to accept that he would never read again after being shot in the head underwent remedial instruction and psychological counselling at a rehabilitation center. Five years later, he had only achieved the reading age of a nine-year-old.[83]

Fighting On

Surprisingly, there were only sporadic reports of alexia following the First World War. The decline occurred largely because holistically oriented neurologists called into question whether activities such as reading could be linked to specific cortical locations.[84] They dismissed the work of previous neurologists including Dejerine and Hinshelwood for futilely attempting to design "brain maps" pinpointing the areas responsible for reading and other activities.[85] It was not until the 1960s that research on split-brain patients renewed interest in the links between behavior and brain structure. The behavioral neurologist Norman Geschwind led the way in defending his predecessors against the derisory charges of "diagram-making" and in rekindling interest in the role played by cerebral pathway lesions in producing reading deficits.[86]

Whereas nineteenth-century medical journals diagnosed the most common types of alexia, twentieth- and twenty-first-century reports have identified the uncommon ones: children who lose the ability to read books; blind people who can no longer read braille; musicians who cannot read music anymore; and one patient who stopped reading after damage to the brain's right hemisphere (nearly all other cases involve the left one).[87] Such reports document the breadth of acquired reading disorders, if not the depth (unsurprising,

considering that most of these patients can no longer write). Yet changing publishing conditions have enabled some patients to tell their own stories instead of relying on medical professionals to tell their stories for them. Whereas case histories based on clinical observation frequently reduce a patient to an impersonal set of physiological symptoms, a patient's account is far more likely to address a brain injury's psychological toll.

Memoirs written by people with alexia bring to the foreground the affective dimension of reading, a focal point of recent scholarship.[88] Paradoxically, testimonies of reader's block can help us to understand what reading feels like in the first place. They do so by dwelling on the complexity of a process taken for granted by most adults. How reading works is something to which people pay scant attention after passing the literacy threshold as children. Literate adults may worry about losing access to books, interest in them, or the physical capacity to hold them, but they are unlikely to contemplate losing the ability itself. For most people, the progression from illiteracy to literacy is a one-way street. This mindset helps to explain why suddenly becoming illiterate after a lifetime of literacy can be traumatic—what this essay deems the postliterate condition.

Reader's block offers an unwelcome reminder of the reading process's cerebral complexity despite the fact that, for most of us, it feels effortless. By forcing people to look inside reading's black box in order to determine what has gone wrong, it underscores the degree to which the visual recognition of letters is merely one component of a multistep operation taking place inside our skulls. As Hinshelwood announced at the start of his pioneering study on reading disorders, "We are apt to forget that we see with our brains as well as with our eyes."[89] In this sense, alexia underscores the extent to which reading is as much

physiological as intellectual. It is an embodied behavior for which countless minute but decisive physical exchanges must function correctly. Disruption at any stage of the reading process—whether to one's attention, vision, or linguistic processing—can interfere with reading efficiency or even bring it to a halt. Reader's block therefore cannot help but make people aware of what it feels like to read. Perversely, ex-readers might even have a more sophisticated understanding of "the mysteries of what reading and writing are all about"—a phrase taken from an alexic patient's memoir—than the people who spend their days reading books.[90]

The Second World War delivered no shortage of brain injuries for clinical scrutiny. The most revealing account came from the Russian soldier Lev Zasetsky, who went into a prolonged coma after being shot in the head during the Battle of Smolensk on March 2, 1943. When he awoke, he could no longer read, write, speak, remember, or even recognize parts of his own body. The Russian neuropsychologist Alexander Luria (mentioned earlier as an influence on Sacks) compiled an account of Zasetsky's injuries, *The Man with the Shattered World*, which alternates between the neuropsychologist's analytical reporting and the patient's subjective account of the trauma. A case study based on thirty years of observation allows for a level of detail and intimacy beyond the reach of the brief portraits found in medical journals. As a result, Zasetsky's testimony explains firsthand the brain injury's profound impact on his identity—a sense of being a completely different person from the literate twenty-three-year-old soldier who went to war.

Zasetsky's acquired illiteracy came as a shock. Like most people, it had never occurred to him that literacy could be lost. Although he had been a trilingual student at a polytechnic institute before the war, he could no longer read *Pravda* or even bathroom signs. The evidence

before his eyes struck him as a cruel joke: “wrong,” “ridiculous,” “impossible!”[91] Hardly his most serious injury, Zasetsky’s reading deficits had a profound psychological impact by undermining his independence, competence, and communication skills. The invisible disability invited little sympathy from people who might otherwise show respect for a war veteran. Instead, he met with disbelief: “What’s the matter with you, can’t you read?” “Can someone your age still be illiterate?”[92]

The Man with the Shattered World provides the most intimate account yet written of alexia’s psychological toll. It conveys the harsh lesson that the surest way to appreciate literacy is not to gain it but to have it taken away. For Zasetsky, literacy represents empowerment, and illiteracy its loss:

> How awful it is not to be able to read. Only by reading does a person learn and understand things, begin to have some ideas about the world he lives in, and see things he was never aware of before. Learning to read means having some magic power, and suddenly I’d lost this. I was miserable, terribly upset by it.[93]

The initial lines might sound like a plea for literacy were they not spoken by someone who had already learned to read. From magical reading to reading as magic: a crucial difference between illiteracy and postliteracy is that reading’s power—what George Eliot once referred to as a “mental empire”—can only be mourned by those who have lost it.[94] Zasetsky’s reading slowly improved. Yet anything more ambitious than children’s books exhausted him. “It was such a strain reading,” explains Zasetsky, “my head ached and felt like it was splitting.”[95] Zasetsky’s

regression to children's books and a state of passive dependency—he compares himself to "a child who'd never seen a primer or an alphabet"—complete the humiliation.[96]

It took Zasetsky nearly twenty five years to write his 3,000-page manuscript. In it, he describes feeling like a different person—even less than a person. "It was depressing, unbearable to realize how miserable and pathetic my situation was," he writes. "You see, I'd become illiterate, sick, had no memory. So once again I'd try to revive some hope of recovering from this terrible disease. I began to fantasize that I'd get over the headaches and dizzy spells, recover my vision and hearing, remember all I'd ever learned."[97] The only imaginable future here depends on recovering the past—the memories, accumulated knowledge, and narrative of self that add up to a life. According to Luria, the brain injury had spared Zasetsky's awareness of what it means to be human. The tenacity with which the disabled veteran pursues literacy, then, must be understood alongside his determination to fight for recognition as a fellow human being—as Bacon's "Full Man." The manuscript's original title was changed from "The Story of a Terrible Brain Injury" to "I'll Fight On!"[98]

Memory Books

Reader's block would disrupt anyone's life. But the consequences are more severe for some professions than for others. In fact, it would be hard to imagine a more perverse affliction for writers. After a stroke in 2001, Howard Engel worried that his career as a novelist was over. For the self-described "reading junkie" and "addict of the printed word," alexia stopped him not

just from reading fiction but from writing it (since he could not edit his manuscripts).[99] Engel was no casual reader; before the stroke, a cerebrovascular accident seemed less probable than being crushed by bookshelves à la Leonard Bast. His memoir, *The Man Who Forgot How to Read*, expresses what it feels like for wordsmiths to lose the words fundamental to their personal and professional identities alike. Curiously, there is something about the experience of not being able to read your own writing that makes people want to write about it.

Phenomenological accounts of alexia face the unique challenge of making readers understand what it feels like to become illiterate. Take the following description of Toronto's *Globe and Mail* newspaper through the eyes of a stroke survivor:

> the letters of the words appeared as though I was trying to make them out through a heat haze; the letters wobbled and changed shape as I attempted to make them out. What looked like an *a* one moment looked like an *e* the next and a *w* after that. It was like astigmatism on a drunken weekend.[100]

Engel's humorous account of the elusive, shapeshifting alphabet adds an unapologetically subjective perspective to the largely impersonal archive of medical case studies. Whereas writing about literacy typically proceeds from obscurity to a state of grace, here the letters stubbornly refuse to come into focus, drawing on the climatological metaphors of fog, mist, and haze used by bewildered patients since the nineteenth century (an 1865 report describes a passing "cloud").[101] More seriously, Engel aligns his efforts to show the world from a stroke survivor's perspective (the print "going fuzzy," "the strange, twisted look of letters on a page")

with those of Temple Grandin's *Thinking in Pictures: Other Reports from My Life with Autism* (1996) and other disability memoirs seeking to raise awareness about neurodiversity.[102]

For all of Engel's levity, then, reading is not just something one does; reading is one's identity. The stroke feels "personal," less a random biological accident than a Hardyesque targeting of his love of books (he picks up immediately on the physician's use of the term "insult" to describe brain injuries).[103] Engel's self-identification as a reader, despite being neurologically incapable of reading, lays bare the term's aspirational pull; he even continues buying books after becoming "an illiterate."[104] In fact, the writer finds it impossible to conceive of a postliterate identity:

> I was still a reader. The blast to my brain could not make me otherwise. Reading was hard-wired into me. I could no more stop reading than I could stop my heart. Reading was bone and marrow, lymph and blood to me.[105]

The denial tells us everything we need to know about the postliterate condition. What more revealing link between reading and identity could there be than a self-proclaimed reader who can't read? Neurologists would dispute this definition, of course; a blast to your brain certainly *can* make you otherwise. But Engel's riposte to the brain localizers holds forth an ideal of reading as something extending beyond its cortical coordinates. What Engel is expressing through corporeal metaphors is the sense familiar to book lovers everywhere that reading is irreducible to neurology and cannot be explained in physiological terms alone.

"I refuse to accept my status as a *former* reader," Engel tells us.[106] Yet willpower is no match for neurological damage; the brain's deficits make a mockery of the protestant work ethic. Literacy narratives are generally uplifting ones that culminate in the life-changing benefits of access to books. Alexia narratives defy such satisfying arcs, however. They progress instead from illiteracy to a sort of literacy limbo, a partial ability to read that is provisional and time-consuming, lacking in the near-effortless pleasure sought in books by most people. Postliteracy makes one acutely aware of reading, once a smooth, automatic process, as an intricate and unwieldy combination of different neurological activities—from visual recognition to decipherment and meaning-making—each of which can misfire at any given moment. The postliterate reader is a perpetual beginner, doomed to flounder in the early stages of literacy acquisition associated with childhood and yet without the promise of adulthood.

Engel's identification with his fellow readers (and, by implication, his audience) explains his dogged efforts to learn to read again using the letter-by-letter method. Whereas less fanatical readers might conclude that books aren't worth the effort, Engel persists in order to conserve his identity as a literate adult—in short, as a reader. Six years after the stroke, however, he is no speed-reader. The "snail-like" pace with which he sounds out syllables undercuts any hope of a Samuel Smiles-esque outcome.[107] That admission would seem to confirm the memoir's opening question: "Was I doomed forever to sound out my words like a beginning reader?"[108]

As if writing a memoir about alexia sine agraphia were not enough, Engel wrote a novel about it too (a more accurate diagnosis of Engel's condition might be alexia with graphomania). *Memory Book*, the eleventh novel in the Benny Cooperman detective series, takes up the

challenge of representing an alexic patient's "mental condition" using a genre not ordinarily associated with round, complex, or intellectually disabled protagonists.[109] After a blow to the head, Cooperman wakes from a coma to find himself in Toronto's Rose of Sharon Rehabilitation Hospital. From the patient's inability to decode the newspaper to his suspended driver's license, the plot is a thinly fictionalized version of Engel's own experience—all the way down to the mention of Oliver Sacks (who makes a cameo in Engel's memoir and supplies afterwords to both books). The novel's gimmick: a detective who solves a murder while confined to a hospital trauma ward with neurological deficits. Letters remain purloined in this novel: "Not only was I an amnesiac," laments Cooperman, "I was illiterate to boot!"[110] Cooperman's appeal had always been a softboiled nature setting him apart from hardboiled predecessors like Lew Archer and Sam Spade. *Memory Book* takes the gag to a new level by ensuring that the hospital-bound invalid is physically incapable of walking down those mean streets.

The novel (itself a sort of memory book) takes its title from the notebooks used by amnesiac patients to record personal information, appointments, and musings that would otherwise be forgotten. Cooperman's memory book stands in for the detective's notebook too, of course. In order to make use of it, however, Cooperman must first relearn how to read. Inevitably, his attempts lead, as they do in the other memoirs examined by this essay, to reflections on the nature of reading itself. Yet the focus shifts from Cooperman's tedious rehabilitation to his inspired use of compensatory strategies to decipher clues, if not words, leading to the crime's solution. Little is at stake in Cooperman's literacy (he is no man of letters, unlike the novel's author); the murder's solution does not even hinge on the illegible textual evidence in Cooperman's possession. No, this wheelchair sleuth solves the murder despite, or

perhaps because of, not being able to read the paperwork. Instead, Cooperman relies on signs missed by the narrative's neurotypical observers. Shorn of the author's anxiety toward postliteracy, the novel reassuringly suggests that patients with alexia can resume their former lives if reading is thought of merely as a tool, not an identity. As an impressed police officer asks, "Where can *I* get hit on the head like *that*?"[111] If only reading deficits were so simple.

The study of alexia has particular resonance at a time when it is feared that people may cease reading altogether. Engel's detective invokes a very different version of postliteracy, introduced by Marshall McLuhan and taken up more widely by Media Studies, according to which reading is an obsolete skill in today's multimedia world.[112] McLuhan's postliterates give up reading voluntarily—no head injury required. Former readers can stop worrying about stigma once everyone's postliterate or at least aliterate (that is, capable of reading but, like Herman Melville's Bartleby, preferring not to), and medical intervention is hardly necessary when there are numerous ways of accessing information that bypass conventional literacy, from assistive technologies such as text-to-speech screen readers to audiobooks. Alexia no longer entails being cast out from the world of letters. In short, there has never been a better time to experience reader's block.

But, as this essay has shown, people who value reading as an essential aspect of their identities will take little consolation from McLuhan's vision. Losing the ability to read will remain traumatic as long as reading is connected to selfhood. Consequently, their mental health may depend on finding ways to reconcile alternative methods of reading with their sense of what it means to be a reader. The postliterate condition thereby represents a new phase of literacy rather than its abandonment. The problems confronting individuals with

neurological reading disorders may have less to do with the brain, in fact, than with the attribution of meaning, by individuals or society at large, to those deficits. The testimonies of neurological reading disorders presented here suggest that the best way to understand the value of reading in people's lives may be to examine those instances in which it has been lost.

If Engel's detective suggests one way for alexic individuals to move on with their lives, others would not find it so easy. A final case study from 2014 brings home alexia's continuing impact on the inner life even in an era in which we have supposedly moved beyond the need to read. M. P., a forty-year-old kindergarten teacher who described reading as "her life's passion," learned of her stroke after failing to decipher the school's attendance sheet.[113] As one might expect from a reading instructor, she worked diligently to restore her reading abilities, supplementing occupational therapy with flash cards, writing exercises, and other techniques. But nothing worked. She missed reading books and, most of all, the fulfillment of reading to children. Above all, she missed being a reader. In fact, M. P. refused to accept that she was not a reader anymore until it could no longer be denied:

> One day my mom was with the kids in the family, and they were all curled up next to each other, and they were reading. And I started to cry, because that was something I couldn't do. I could be there, but I couldn't pick up the book and read it. That's something that I'd always done, and it's something I had a lot of pleasure from. And I couldn't do it.[114]

Countless others beset by neurological reading disorders have learned similarly painful lessons. M. P. is not thinking here about access to information, employment prospects, or even her standing as a literate adult—a Full Woman, in this case. She is mourning the loss of a pastime that gave purpose and meaning to her life. Today, reading is no longer part of M. P.'s life. She works in sales at the local fitness center since reading to children is no longer an option. One day she hopes to write a memoir about her experience of postliteracy.

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[4] For a comprehensive review, see Alexander Leff and Randi Starrfelt, *Alexia: Diagnosis, Treatment and Theory* (London: Springer-Verlag, 2014).

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[16] Sacks, *The Man*, x.

[17] Oliver Sacks, *On the Move: A Life* (New York: Alfred A. Knopf, 2016), 14.

[18] Oliver Sacks, *The Mind's Eye* (London: Picador, 2010), 165. Sacks describes his suicidal thoughts in *On the Move*, 379.

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[88] See, for example, the essays in Rachel Ablow, ed., *The Feeling of Reading: Affective Experience and Victorian Literature* (Ann Arbor: University of Michigan Press, 2010). Mary A. Favret considers the experiences of those who find reading difficult in "The Pathos of Reading," *PMLA* 130.5 (2015): 1318-1331, esp. 1320-1321.

[89] Hinshelwood, *Letter-*, 2.

[90] Howard Engel, *The Man Who Forgot How to Read* (New York: Thomas Dunne Books/St. Martin's Press, 2007), xiv.

[91] A. R. Luria, *The Man with a Shattered World: The History of a Brain Wound*, trans. Lynn Solotaroff (Cambridge, Mass.: Harvard University Press, 1972), 64.

[92] Luria, *The Man*, 62, 63.

[93] Luria, *The Man*, 64.

[94] Eliot, *Romola*, 334.

[95] Luria, *The Man*, 99.

[96] Luria, *The Man*, 75.

[97] Luria, *The Man*, 35.

[98] Luria, *The Man*, xxi.

[99] Engel, *The Man*, xiii, 7. Engel's case is described at length in Sacks, *The Mind's Eye*, 53-81.

[100] Engel, *The Man*, 28.

[101] The case of Mr. X was originally reported by Armand Trousseau. Cited in Banks, "On the Loss," 78.

[102] Engel, *The Man*, 43, 29.

[103] Engel, *The Man*, 37.

[104] Engel, *The Man*, 73.

[105] Engel, *The Man*, 41.

[106] Engel, *The Man*, 99.

[107] Engel, *The Man*, 133.

[108] Engel, *The Man*, 134.

[109] Engel, *The Man*, 129.

[110] Howard Engel, *Memory Book* (New York: Carroll & Graf Publishers, 2006), 13.

[111] Engel, *Memory Book*, 226.

[112] See, for example, the prophetic remarks about a "post-literate time" made in Marshall McLuhan, *The Gutenberg Galaxy: The Making of Typographic Man* (London: Routledge & Kegan Paul, 1967), 2.

[113] Quoted in Jason Cuomo, Murray Flaster, and José Biller, "Right Brain: A Reading Specialist with Alexia without Agraphia: Teacher Interrupted," *Neurology* 82.1 (January 7, 2014): e5-e7; e5.

[114] Cuomo et al., "Right Brain," e7.